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ABSTRACT

A project was conducted to train Jefferson County, Alabama, vocational education instructors in effective teaching techniques and to develop appropriate instructional procedures for educable mentally retarded students. Vocational education areas included in the project were welding, food service, and brick masonry. The project was conducted in two major steps. In the first step a series of workshops were held for six vocational instructors and six exceptional education teachers to develop appropriate materials and procedures for lessons. Initiation of the use of materials and procedures of the project and on-going evaluation activities constituted the second step in the project. Among the accomplishments of the project were the development of skill checklists for each vocational area and teaching materials such as flash cards, games, and taped materials. (The skill checklist and teaching materials developed are appended.) (LRA)

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FINAL REPORT

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Effective Vocational Training Procedures for EMR Students

Exemplary Project in Vocational Education
Conducted Under
Title II, Sec. 132
Public Law 94-482

The project reported herein was conducted pursuant to a contract with the Alabama State Department of Education. Contractors undertaking such projects under State government sponsorship are encouraged to express freely their professional judgement in the conduct of the project. Points of view or opinions do not, therefore, necessarily represent official State Department of Education position or policy.

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July 30, 1979

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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I. INTRODUCTION

This project, Effective Vocational Training Procedures for EMR students, was designed to train Jefferson County vocational education instructors in effective teaching techniques and to develop appropriate instructional procedures for educable mentally retarded students. At the time the project began, there were approximately 200 educable mentally retarded students enrolled in vocational labs in Jefferson County. There were also approximately 250 exceptional education students enrolled in pre-vocational training programs and exploratory career classes.

As a result of the Vocational Education Amendments of 1968 and the legislative actions of Public Law 94-142, Public Law 94-482, and Alabama Act 106 increased emphasis is being given to the most appropriate instruction in the least restrictive environment. There has been a continued increase of the number of educable mentally retarded students in vocational lab training and also the number of vocational instructors that are working with these handicapped students. Since surveys of Jefferson County indicate that less than 5% of vocational education instructors had any training in working with handicapped students, this project was designed to provide information related to effective teaching and vocational program development for mentally handicapped students.

The vocational education areas selected for the project were welding, food service and brick masonry.

The amount of state funds budgeted to the project during July 1, 1978 to June 30, 1979 was $10,000.

II. OBJECTIVES

A. Vocational education instructors will reflect an increase in positive attitudes toward the acceptance of EMR students and their ability to teach these students.

B. Specific vocational goals and objectives for EMR students will be identified, field tested, revised and disseminated to other vocational teachers.

C. Adapted written and taped materials will be developed for use in vocational education labs and exceptional education classrooms throughout Jefferson County.

D. EMR students in experimental groups will achieve 80% of those skills identified as appropriate for EMR students.

E. Specific screeening activities used for assessing students' capabilities or potential for successful lab experiences will be developed.

III. PROJECT PERSONNEL

1. Project Director

The Project Director served in an administrative capacity by maintaining an on-going evaluation of the development and implementation of the project and provided assistance when needed.

2. Vocational Education Consultant

The Vocational Education Consultant acted as an instructor in the preparatory workshop to provide information relative to vocational education that was essential to the project. The vocational education consultant also visited vocational teachers to supervise the implementation of project activities and assisted in evaluation procedures and dissemination of products developed.

3. Exceptional Education Consultant

The Exceptional Education Consultant acted as an instructor in the preparatory workshop to provide information relative to exceptional education essential to the project. The exceptional education consultant also supervised the development and revision of materials to be used with EMR students and assisted in dissemination of products developed.

4. Six Vocational Education Instructors

There were two vocational instructors from each of the areas of welding, food service and brick masonry. These instructors attended the preparatory workshop at the beginning of the project and utilized and implemented the materials, information, and techniques with EMR students in their vocational classes during the 1978-79 school year.

5. Six Exceptional Education Teachers

The exceptional education teachers attended the preparatory workshop to provide information and assistance to vocational instructors in developing materials and activities for EMR students.

All project participants participated in the follow-up workshops to evaluate and revise materials.

IV. PROCEDURES

The major steps involved in initiating and conducting the project are outlined as follows:

A. Preparation

1. Two day workshops for six(6) vocational instructors and six(6) exceptional education teachers for instruction in the following:
   a. basic learning styles of EMR students.
   b. appropriate teaching techniques.
   c. acceptance of EMR students as functioning, worthwhile individuals.

2. Two day workshop for developing screening activities for specific vocational labs to be used as a basis for recommending appropriate lab entry.
3. Four day workshop for developing a selected skills continuum or checklist for specific labs.
4. Seven day workshop for adapting and developing materials, taping texts or portions of texts, and developing slide/tape demonstrations of lessons.

B. Implementation

Initiation of the use of materials and procedures of this project and on-going evaluation of these were done in stages:

1. Stage I (12 weeks) - Initiation of project procedures. Project personnel met in November to review and evaluate implementation of project procedures and products.
2. State II (12 weeks) - Implementation of project materials and procedures continued. Project participants discussed effectiveness of materials and suggested revisions and adaptations.
3. State III (12 weeks) - Completion of implementation of the project procedures and materials used with EMR students. Project personnel discussed effectiveness of project materials according to EMR students' progress.

C. Evaluation

Evaluation was an on-going component of the entire project. Formative assessment was given at the end of each twelve week period and a summative evaluation was made at the end of the project year.

D. Follow-Up

A revision of goals, objectives, procedures and materials were made after implementation and reviewing results of students' performance and progress in the selected areas.

E. Dissemination

The products of this project were distributed to vocational instructors in Jefferson County in the selected lab areas to be used with EMR students. Comments and in-put from vocational instructors not participating in the project were encouraged. Final revisions of products will be distributed throughout Jefferson County to exceptional educators and appropriate vocational lab instructors.

Lab instructors in the following schools participated in project activities.

School	Vocational Lab
Dabbs Area Vocational Center	Brick Masonry Food Service Welding
Gilmore-Bell Area Vocational Center	Brick Masonry Food Service Welding
Minor Area Vocational Center	Food Service Exceptional Education Exploratory Shop
Rogers Area Vocational Center	Welding Food Service
Fultondale Area Vocational Center	Brick Masonry
Springdale School	Exceptional Education Exploratory Shop

V. ACCOMPLISHMENTS AND PRODUCTS

A. Vocational education instructors will reflect an increase in positive attitudes toward the acceptance of EMR students and their ability to teach these students.

A survey was administered to the vocational instructors at the beginning and end of the project to measure attitudes toward handicapped persons. This checklist was an adaptation of The Measurement of Attitudes Toward Disabled Persons developed by Harold Yuker, J. R. Block, and Janet Younng, INA Mend Institute, Human Resource Center, Albertson, New York. The terminology in the statements was changed from "disabled" to "handicapped" and additional statements were added regarding the education of handicapped persons. It is felt that the comparison of results from the pre and post tests do not give a valid measure of attitudinal change. The adapted method of recording responses and the change of terminology proved to be confusing to the reader (See Appendix A). However, the narrative evaluations submitted by each project participant clearly indicated an increase in positive attitudes toward the acceptance of EMR students and especially a self-confidence in their ability to teach these students.

B. Specific vocational goals and objectives for EMR students will be identified, field tested, revised, and disseminated to other vocational teachers.

Skill checklists were developed, field tested, and revised for each of the vocational areas of food service, brick masonry, and

welding. These checklists are composed of skills, goals, or objectives from each area that have been adapted, modified or revised to be appropriate for EMR students. Students' progress or performance may be recorded on the checklists (See Appendix B). Project participants indicated the usefulness of the skill checklists in determining appropriate goals and objectives to become a part of and be recorded on the student's Individual Educational Program (IEP).

C. Adapted written and taped materials will be developed for use in vocational education labs and special education classrooms throughout Jefferson County.

A variety of teaching materials were developed for each selected vocational area. The types of instructional aids developed and used with EMR students are as follows: posters, flash cards, games, taped materials (texts, tests, work sheets), rulers with colors marking fractions of inch, and slide/tape presentations. A description of the various materials developed in the selected areas is included in Appendix C.

D. EMR students in experimental groups will achieve 80% of those skills identified as appropriate for EMR students.

At the recommendation of the project monitor, experimental and control groups were not identified. It was felt that it would be better to utilize project materials with as many students

and instructors as possible. Student progress as measured by overall lab grade, teacher comments, and the degree of mastery of identified objectives indicated a significant mastery of those skills identified appropriate for individual students was achieved. Excessive absenteeism of some students was the most common factor that prevented successful achievement.

E. Specific screening activities used for assessing students' capabilities or potential for successful lab experiences will be developed.

Each vocational lab requres certain basic student qualifications for success in the lab and potential employment in that area. Using The Dictionary of Occupational Titles, a set of miminum skills or traits were identified for each lab area addressed and suggested activities to measure those skills were developed. The activities developed are of such a nature that the exceptional education classroom teacher should be able to assess a student and provide vocational orientation to help the student select realistic areas and goals for vocational training. These screening checklists and activities should provide a basis for recommending vocational areas in which students exhibit potential for successful performance (See Appendix D).

VI. IMPACT ON STUDENTS OR TEACHERS

There were twelve teachers directly involved from the initiation of the project. These teachers, six vocational instructors and six exceptional education teachers, developed and implemented the procedures and materials in their classes with EMR students during the 1978-79 school year. Six other vocational instructors in the selected areas reviewed and used materials that were developed. There were approximately eighty-five EMR students enrolled in the lab areas utilizing project materials. Teachers reported EMR students' progress was much better with the use of the adapted materials and teaching techniques. The development of the skill checklists also made it much easier for the vocational instructors to plan and identify appropriate realistic goals and objectives for the student and to evaluate the student's progress in terms of the objectives mastered.

VII. PROBLEMS ENCOUNTERED

The adapted attitude scale used to measure attitude change, as mentioned earlier, proved to be ineffective (See V, A, Page 7). The changing of the terminology and the adapted method used to mark the response seemed to be confusing for the reader. It is believed that using more specific terminology, such as "EMR" instead of "handicapped" in the statements would have proved to be more effective in making a comparison for this project. Also,

varying degrees of opinion or responses should have been used instead of a very definite agreement or disagreement to the statement. This was evident by the failure to mark a response and the comments written on the post test survey when the participants did not completely agree or disagree with the statement.

Another problem encountered in carrying out project objectives was the need of a professional photographer or audio-visual specialist to assist in making slide photographs, visual aids and tape recordings. The expertise of specialists would have been helpful in developing the instructional materials and products of the project.

VIII. DISSEMINATION OF RESULTS AND CONTINUATION OF BENEFITS

The results of this project includes the following products:

1. Skill checklists for EMR students in the vocational areas of welding, food service and brick masonry.
2. Screening activities in the selected areas for EMR students to help determine appropriate lab placement.
3. Instructional materials for EMR students in the vocational areas of welding, food service and brick masonry.

The final products will be distributed throughout Jefferson County to all exceptional education teachers and vocational instructors in the areas where these project materials will be applicable. Duplicate copies of the slide/tape presentations are being made to be placed in each area vocational center where applicable. All products and material will be disseminated to appropriate teachers

and instructors by the beginning of the 1979-80 school year.

The products resulting from this project will be made available upon request to representatives from the Alabama State Department of Education for coordination with overall state and national dissemination.

The intent of this project was to provide meaningful information, teaching techniques and procedures and materials that will benefit the following groups:

(1) EMR Students - Appropriate teaching procedures, objectives and materials will be utilized in the instruction of these students to facilitate and enhance the learning of skills essential for employment.

(2) Vocational Education Instructors - The development of materials and techniques will enable lab instructors to plan and implement an effective program for EMR students and display positive attitudes toward such students and their inclusion in vocational education.

(3) Exceptional Education Teachers - Communication between exceptional education teachers and vocational instructors will provide a better understanding of the policies and procedures of each program and thus provide a more meaningful and effective vocational experience for EMR students.

The need is recognized for continued effort in developing materials, procedures, and positive attitudes toward the acceptance of EMR students in vocational labs. Hopefully, through in-service

programs and workshops, materials and similar products of this project will be developed for other vocational areas.

APPENDIX A

THE MEASUREMENT OF ATTITUDES TOWARD HANDICAPPED PERSONS

Adapted From

The Measurement of Attitudes

Toward Disabled Persons

RD-834

Developed By

Harold E. Yuker

J. R. Block

Janet H. Young

INA Mend Institute

at

Human Resources Center

Albertson, New York 11507

1970

*Additional statements were added, terminology changed and method of recording responses was adapted.

ATHP SCALE

READ EACH STATEMENT AND CIRCLE THE NUMBER OF THE STATEMENT IF YOU AGREE WITH IT.

---

1. Handicapped persons are usually friendly.
2. People who are handicapped should not have to pay income taxes.
3. Handicapped people are no more emotional than other people.
4. Handicapped persons can have a normal social life.
5. Most physically handicapped persons have a chip on their shoulder.
6. Handicapped workers can be as successful as other workers.
7. Very few handicapped persons are ashamed of their disabilities.
8. Most people feel uncomfortable when they associate with handicapped people.
9. Handicapped people show less enthusiasm than non-handicapped people.
10. Handicapped people do not become upset any more easily than non-handicapped people.
11. Handicapped people are often less aggressive than normal people.
12. Most handicapped persons get married and have children.
13. Most handicapped persons do not worry any more than anyone else.
14. Employers should not be allowed to fire handicapped employees.
15. Handicapped people are not as happy as non-handicapped ones.
16. Severely handicapped people are harder to get along with than those with minor disabilities.
17. Most handicapped people expect special treatment.
18. Handicapped persons should not expect to lead normal lives.
19. Most handicapped people tend to get discouraged easily.
20. The worst thing that could happen to a person would be for him to be very severely injured.

21. Handicapped children should not have to compete with non-handicapped children.

22. Most handicapped people do not feel sorry for themselves.

23. Most handicapped people prefer to work with other handicapped people.

24. Most severely handicapped persons are not as ambitious as other people.

25. Handicapped persons are not as self-confident as physically normal persons.

26. Most handicapped persons don't want more affection and praise than other people.

27. It would be best if a handicapped person would marry another handicapped person.

28. Most handicapped people do not need special attention.

29. Handicapped persons want sympathy more than other people.

30. Most physically handicapped persons have different personalities than normal persons.

31. All handicapped persons should be provided vocational training.

32. Academic instruction is not necessary for handicapped students.

33. There should be no difference in wages for the handicapped and non-handicapped persons employed in the same job capacity.

34. Handicapped students should only be taught in classes with other handicapped students.

35. Handicapped students should only be taught by special education teachers.

36. Most handicapped persons have serious behavior and emotional problems.

APPENDIX B

Checklist for Food Service

	Date Began	Date Completed	*	Comments/Grade
I. Basic Kitchen Skills				
A. The student will develop the techniques for care and operation of kitchen equipment and tools. The student will be able to:				
1. Identify basic hand tools and utensils				
2. Demonstrate the correct uses of tools and utensils				
3. Identify small appliances				
a. Handmixer				
b. Toaster				
c. Electric Knife				
d. Coffee Maker				
e. Electric Fry Pan				
f. Fondue Pot				
g. Electric Can Opener				
h. Blender				
i. Waffle Iron				
4. Demonstrate correct use of Small Appliances				
5. Identify Large Appliance and Demonstrate Use				
a. Dishwasher				
b. Deep Fat Fryer				
c. Convection Oven				
(1) Preheat (2) Load and Unload Oven Rack				
(3) Set Timer				
d. Refrigerator				
(1) Clean with Baking Soda and Warm Water				
(2) Place Contents in Proper Place				
e. Freezer				
f. Microwave Oven				
g. Griddle or Grill				
(1) Season Before Use				
(2) Clean with Grill Block				
(3) Clean Grease Tray				
h. Range				
i. Steam Table				

*Indicates Mastery

	Date Began	Date Completed	*	Comments/Grade
j. Commercial Mixer				
k. Disposal				
B. The Student Will Use the Correct Procedure When Measuring. The Student Will Be Able To:				
1. Identify Measuring Utensils				
2. Demonstrate the Ability to Measure Correctly:				
a. Dry Ingredients				
b. Liquid Ingredients				
c. Solids				
d. Fats				
C. The Student Will Be Able to Demonstrate the Ability to Follow Directions of a Recipe.				
1. Understand Abbreviations				
2. Understand Terminology				
3. Follow Recipe Steps				
4. Use Equivalents (basic)				
II. The Student Will Demonstrate Abilities to Prepare Food. The Student Will Demonstrate Ability to:				
A. Fill Condiments				
B. Cut, Trim, and Bone Meats in Portions				
C. Season, Bread and Tenderize Meats				
D. Wrap Foods for Baking				
E. Slice Cooked and Cold Meats by Hand				
F. Slice Cooked and Cold Meats with Electric Knife				
G. Fill Containers with Ice and Pour Beverages				
H. Fill Napkin Dispenser				
III. The Student Will Demonstrate Knowledge of Basic Food Preparation.				
A. Beverages				
1. Coffee				
2. Tea				
3. Cocoa				
4. Punch				

*Indicates Mastery

	Date Began	Date Completed	*	Comments/Grade
B. Breads				
1. Quick Breads				
a. Biscuits				
b. Muffins				
c. Pancakes				
d. Waffles				
e. Coffee Cake				
f. Cornbread				
g. Toast				
2. Yeast Bread				
a. Coffee Cake				
b. Rolls				
3. Sandwiches				
C. Cookies				
D. Cakes and Frostings				
1. Mixes				
2. Conventional Method				
3. Frosting				
4. Frost a Cake				
a. Glazes				
b. Cream				
c. Packaged				
d. Cooked				
5. Decorate				
6. Cut				
7. Plate Pieces of Cake				
E. Pastries and Pies				
1. Graham Cracker Crust				
2. Basic Pastry				
3. Filling				
4. Toppings				
a. Meringues				
b. Whipped Toppings				
5. Cut				
6. Plate Pieces of Pie				
F. Candy				
1. Cooked				
2. Uncooked				
G. Dairy Products				
1. Milk				
2. Cottage Cheese				
3. Sour Cream				
4. Whipping Cream				
5. Butter				
6. Ice Cream				
7. Cheese				
H. Eggs				
1. Grading				
2. Packaging				
3. Preparation Techniques				

*Indicates Mastery

	Date Began	Date Completed	*	Comments/Grade
I. Vegetables				
1. Identification				
2. Preparation				
3. Non-Cooked				
4. Cooked				
5. Frozen				
6. Canned				
7. Fresh				
8. Dried				
9. Dehydrated				
K. Salads and Salad Dressings				
1. Techniques of Salads				
a. Fruit				
b. Congealed				
c. Green				
d. Vegetable				
e. Meat				
f. Dessert				
2. Techniques of Preparation of Salads				
a. Mixed Dressing				
b. Dressing from Basic Ingredients				
L. Soups				
1. Boullion				
2. Cream				
3. Stock Base				
M. Meats				
1. Poultry				
2. Beef				
3. Pork				
4. Fish and Seafood				
N. Casserole Cookery				
O. Garnishes, Condiments and Appetizers				
P. Sauces and Gravies				
Q. Fats and Oils				
Iv. The Student will Demonstrate Table Setting, Service and Manners.				
A. Set Table Correctly				
B. Display Correct Table Manners				
C. Serve Customers				
D. Bus				
E. Wrap Silverware				
F. Assemble Table Decoration Appropriately				
V. The Student will Portion Food Accurately.				

*Indicates Mastery

	Date Began	Date Completed	*	Comments/Grade
VI. The Student Will Demonstrate the Knowledge of Basic Nutrition. The Student will Recognize:				
A. Four Basic Food Groups				
B. Calorie Content				
C. Nutrients - Basic				
VII. The Student Will Be Able To:				
A. Apply Principles of Meal Planning (basic)				
B. Write Menu (basic)				
VIII. The Student Will Be Able To:				
A. Check Out Supplies from Store Room and Refrigerator				
B. Perform the Duties of the Following:				
1. Short Order Cook				
2. Salad Maker				
3. Baker				
4. Bus Boy/Bus Girl				
5. Dishwasher				
6. Pot and Pan Man				
7. Store Room Keeper/ Controller				
a. Dry Food Storage				
b. Cold Food Storage				
8. Cafeteria Line Worker				
9. Waiter/Waitress				
a. Arrange Food for Service				
b. Wrap Silverware				
c. Serve Food				
10. Sanitation Worker				
a. Clean and Care for Equipment				
b. Sanitize Kitchen Area				
c. Wash Silverware, Dishes, Pots, Pans by Machine and by hand				
11. Cashier (Limited)				
a. Receives Correct Payment				
b. Makes Correct Change				
C. Store Equipment and Supplies in Assigned Area				
D. Demonstrate the Ability to Answer the Telephone Correctly				
E. Demonstrate the Ability to Take Accurate Telephone Messages				

*Indicates Mastery

	Date Began	Date Completed	*	Comments/Grade
F. Demonstrate the Ability to Place Telephone Calls Correctly				
G. Obey Sanitation and Health Codes				
H. Determine Quality of Food (Fresh, Spoiled, Overcooked, etc.)				
IX. The Student Will Be Familiar with World of Work.				
A. Role Play Applications				
B. Role Play Interviews				
C. Investigate Employment Policies				
D. Discuss Unions (Basic)				
E. Discuss Social Security Benefits				
F. Identify Parts of Pay Check Stub				

Brick Masonry Checklist

The student will be able to:	Date Began	Date Completed	*	Comments/Grade
I. Identify Tools Used in Brick Masonry				
A. Trowel				
B. Brick Hammer				
C. Level				
D. Jointer				
E. Brick Set				
F. Six Foot Masonry Rule				
G. Steel Square				
H. Wheelbarrow				
I. Shovel				
J. Mortar Hoe				
K. Line				
L. Line Blocks				
M. Trig				
N. Line Pin				
O. Tool Bag				
P. Brick Tongs				
II. Tell the Purpose of Brick Masonry Tools				
A. Trowel				
B. Brick Hammer				
C. Level				
D. Jointer				
E. Brick Set				
F. Six Foot Masonry Rule				
G. Steel Square				
H. Wheelbarrow				
I. Shovel				
J. Mortar Hoe				
K. Line				
L. Line Blocks				
M. Line Pin				
N. Trig				
O. Tool Bag				
P. Brick Tongs				

*Indicates Mastery

		Date Began	Date Completed	*	Comments/Grade
III.	Mix Mortar				
	A. Measure Correct Proportions of Sand, Water and Lime				
	B. Use Hoe Properly to Cut Mortar				
IV.	Spread Mortar				
	A. Hold Trowel Properly				
	B. Pick Up Mortar Properly				
	C. Pull the Mortar Properly				
V.	Butter Bricks				
	A. Apply a Full Head Joint				
	B. Throw a Full Head Joint				
VI.	Lay Bricks				
	A. Hold Brick Properly				
	B. Place Brick Properly to Achieve Correct Bond				
	C. Hold a Uniform Bed Joint				
	D. Shape Joints				
VII.	Place Boards, Mortar and Bricks				
	A. Arrange Boards Properly				
	B. Place Correct Amount of Mortar for Job				
	C. Place Bricks Properly for Job				

*Indicates Mastery

	Date Began	Date Completed	*	Comments/Grade
VIII. Lay Bricks to a Line				
A. Place Bricks Properly to Achieve Correct Bond				
B. Lay Bricks 1/16" from the Line				
C. Lay Bricks Level with the Line				
IX. Use a Level				
A. Level				
B. Plumb				
C. Straight-Edge				
X. Use a Rule				
A. Read Whole Units				
B. Read Fractions of a Unit				
C. Use the Rule to Course Bricks				
XI. Cut Bricks				
A. Measure and Cut a Bat				
B. Measure and Cut a Three-Quarter				
XII. Lay a Soldier Course				
A. Butter a Soldier Brick				
B. Lay True Vertical Bricks				
XIII. Lay Corners				
A. Dry Bond				
B. Use the Square to Square the first Course				
XIV. Build a Brick Column				

*Indicates Mastery

	Date Began	Date Completed	*	Comments/Grade
XV. Clean Brick Walls				
A. Clean Wall with a Wire Brush				
B. Pre-Soak Wall				
C. Wash Cleaned Brick with Water				
XVI. Butter Concrete Blocks Properly				
A. Spread on Block				
B. Butter Head Joint				
XVII. Lay Concrete Blocks				
A. Hold Block Properly				
B. Place Block Properly to Achieve Correct Bond				
C. Hold a Uniform Bed Joint				
XVIII. Use Level to Level, Plumb, and Straight-Edge Blocks				
XIX. Use Rule to Course Blocks				
XX. Lay Concrete Blocks to a Line				
A. Place Blocks Properly to Achieve Correct Bond				
B. Lay Blocks 1/16" from the Line				
C. Lay Blocks Level with the Line				
XXI. Cut Concrete Blocks				
A. Cut Block in Half				
B. Measure and Cut a Three-Quarter Block				

*Indicates Mastery

		Date Began	Date Completed	*	Comments/Grade
XXII.	Observe Safety Rules				
A.	Carry and Handle Trowel Properly				
B.	Wear Safety Glasses when Cutting Bricks and Blocks				
C.	Return Tools and Equipment to Proper Station				
D.	Clean Tools and Work Station When Finished				
E.	Handle Bricks and Blocks in a Safe Manner				
F.	Handle Tools and Equipment in a Safe Manner				
G.	Stack Bricks and Blocks in a Proper and Safe Manner				
H.	Wear Proper Clothing on the Job				
I.	Create a Safe Working Environment for His Co-Workers				

*Indicates Mastery

Basic Welding Checklist

	Date Began	Date Completed	*	Comments/Grade
1. Introduction to Welding				
A. Demonstrates Safety Practices				
1. Uses Proper Equipment				
2. Recognizes dangers off:				
a. Welding while standing on a wet surface				
b. Welding with wet gloves				
c. Welding in cloth shoes				
d. Welding in improper clothing				
e. Welding while wearing jewelry				
f. Welding with curtains open				
g. Tampering with switch boxes				
h. Ventilation fan being off				
3. Welds in own booth				
4. Uses all lab equipment only with permission				
5. Uses oxy-acetylene with proper instruction				
B. Responds to and Follows Lab Rules				
C. Can Identify Welding Tools				
1. Hood				
2. Gloves				
3. Chipping Hammer				
4. Wire Brush				
5. Striker				
6. Safety Glasses				
7. Leather Jacket				
D. Can Identify Welding Equipment				
E. Can Identify Welding Supplies				

*Indicates Mastery
**Corresponds to Student's Basic Welding Guide

		Date Began	Date Completed	*	Comments/Grade
	F. Can Set Up and Adjust Power Source				
II.	Flat Welds (1/8" E-6013 Rod or 1/8" E-7014 Rod)				
	The student will be able to:				
	A. Strike and Control the Arc				
	B. Surface Weld-Beads				
	C. Surface Weld-Beads and Weaves				
	D. Make a Flat Weld				
**	E. Make Two Straight Stringer Beads 3/8" Apart (F-1)				
**	F. Overlap Beads to Make a Pad Weld (F-2)				
**	G. Tie Two Stringer Beads With a Weave (F-3)				
**	H. Make a Three Stringer Bead Tee Fillet (F-4)				
	1. Make a Root Pass				
	2. Make Two Cover Passes				
**	I. Make a Six or Seven Stringer Bead Tee Fillet (F-5)				
**	J. Make a Three Weave Bead Tee Fillet (F-6)				
	1. Make a Root Pass				
	2. Make a Two Weave Beads Connect Two Sides of the Tee Joint				
**	K. Make One Root Pass and Two Weave Bead Vee Butt Weld (F-7)				
**	L. Make One Root Pass and Four Weave Bead Vee Butt Weld (F-8)				
**	M. Make One Root Pass and Five Stringer Bead Vee Butt Weld (F-9)				
**	N. Make One Stringer Bead and Two Weave Bead Vee Butt Weld on 3/8" Metal (F-10)				
**	O. Make a Three Stringer Bead Lap Weld (F-11)				
**	P. Make a Ten Stringer Bead Lap Weld (F-12)				

*Indicates Mastery
**Corresponds to Student's Basic Welding Guide

		Date Began	Date Completed	*	Comments/Grade
III.	Horizontal Welds (1/8" E-6013 rod)				
	The student will be able to:				
**	A. Make Three Stringer Beads (H-1)				
**	B. Make a One Stringer Bead Tee Fillet (H-2)				
**	C. Make a Three Stringer Bead Tee Fillet (H-3)				
**	D. Make a Six Stringer Bead Tee Fillet (H-4)				
**	E. Make a Ten Stringer Bead Tee Fillet (H-5)				
**	F. Make a One Stringer Bead Lap Weld (H-6)				
**	G. Make a Six Stringer Bead Lap Weld (H-7)				
**	H. Make One Stringer Bead Corner Weld - 1/8" Metal (H-8)				
**	I. Make Three Weave Bead Corner Weld - 1/2" Metal (H-9)				
IV.	Vertical Welds - Uphill and Downhill (1/8" - E-6011 Rod or 1/8" - E-7018 Rod)				
	The student will be able to:				
**	A. Make Two Stringer Beads Uphill 1/2" Apart (V-1)				
**	B. Tie Two Stringer Beads Together with a Weave Bead Uphill (V-1)				
**	C. Make Two Stringer Beads Downhill 3/8" Apart with an Uphill Weave (V-1)				
**	D. Make Two Stringer Beads Downhill 3/8" Apart with a Downhill Weave (V-1)				
**	E. Make a Three Stringer Bead Corner Weld on 1/4" Metal (V-2)				
**	F. Make One Root Pass and Two Weave Beads on a Corner Weld on 1/2" Metal (V-3)				
	1. Uphill				
	2. Downhill				
**	G. Make a One Stringer Bead Tee Fillet (V-4)				

*Indicates Mastery
**Corresponds to Student's Basic Welding Guide

		Date Began	Date Completed	*	Comments/Grade
	1. Uphill				
	2. Downhill				
**	H. Make One Root Pass and Two Stringer Bead Tee Fillet (V-5)				
**	I. One Stringer Bead and Two Weave Bead Tee Fillet (V-6)				
**	J. Make One Root Pass and Two Bead Lap Weld on 1/4" Metal (V-7)				
**	K. Make One Root Pass and Five Stringer Bead Lap Weld on 1/2" Metal (V-8)				
**	L. Make One Root Pass and Two Stringer Bead Vee Butt Weld on 1/4" Metal (V-9)				
**	M. Make One Root Pass and Two Weave Bead Vee Butt Weld on 1/2" Metal (V-10)				
	1. Uphill				
	2. Downhill				
**	N. Make One Root Pass and Seven Weave Bead Vee Butt Weld on 1/2" Metal (V-11)				
V.	Overhead (1/8" - E-6011 Rod or 1/8" E-7018 Rod)				
	The students will be able to:				
**	A. Make Two Stringer Beads (O-1)				
**	B. Make Two Stringer Beads and One Weave Bead (O-2)				
**	C. Make Three Stringer Bead Tee Fillet (O-3)				
**	D. Make One Stringer Bead Lap Weld (O-4)				
**	E. Make One Stringer Bead and Two Weave Bead Vee Butt Weld on 1/4" Metal (O-5)				
**	F. Make Root Pass and Thirteen Stringer Bead Vee Butt Weld (O-6)				
**	G. Make One Root Pass and One Weave Bead Vee Butt Weld on 1/4" Metal (O-7)				
**	H. Make One Root Pass and Seven Weave Bead Vee Butt (O-8)				
**	I. Make a Pad Weld (O-9)				

*Indicates Mastery
**Corresponds to Student's Basic Welding Guide

APPENDIX C

Brick Masonry

1. Objectives Checklist

2. Brick Masonry Slide Presentation and Tape

3. Activity - Brick Masonry Terms and Pictures Matching

The student may use the cards to match the correct term with the picture that illustrates it.

The letter on the back of each card identifies the correct match.

Terms & Pictures

Bed Joint
Head Joint
Rowlock
Header
Soldier
Stretcher
Running Bond
Soldier Course
Common Bonds
Header Course
Stak Bond
Flush Joint
V-Joint
Concane Joint
Scratch Joint

4. Activity - Photographs of Brick Masonry Skills

There are photographs numbered in sequence of the following skills:

Mixing Mortar (1)
Using Trowel to Spread Mortar (8)
Laying Bricks (16)
Laying Blocks (4)

The instructor may use the photographs to illustrate the correct way to perform a task.

The student may use the photographs by putting them in proper sequence and by identifying the task being shown in each photograph.

5. Activity - Matching Tool, Name, and Use

This activity consists of large drawings of each tool used in Brick Masonry, smaller cards on which are printed the name of each tool, and cards which have the purpose of each tool printed on them.

This activity may be used by individuals or small groups. A suggested procedure is to first have the pictures identified orally. Then the name can be matched with the picture. Finally, the use of each tool can be matched with the picture and name.

The correct match can be checked by seeing that the letters on the back of the cards are the same.

Tools

Wire brush
Line Pin
Mortar Hoe
Brick Tongs
Safety Glasses
Line Blocks
Masonry Rule
Level
Trowel
Chisil
Brick Hammer
Shovels
Jointers
Steel Square

6. Wooden Representation of One Inch with Fractional Markings

7. Word Hunt Puzzles Using Brick Masonry Terms

8. Vocabulary List

Screening Activities

Brick Masonry Tools I

K L M A O B C K L T O N G S M P Q B

L I N E B L O C K S C X Z R O A B G

F L P T U L N E I M U K R U L E S S

Q R T B R I C K S E T L G F B A C D

X L M O W R Y P O E L T O O L B A G

S T D E A H L M F G H E E L M U L X

S R C F M X E L R M J O I N T E R C

E I L T W R O E L X V E C G V I M N

R G P P S S D U L T A R P O S T M L

O T R L O H F E L B O P D C Q R H E

M H O E R A W K B L A G A P U L M E

B R Y L S M R T G S L R L E A X Q R

Q K I C P M K R P H R O R M R P F G

L E A G U E H O P O L L O O E X R P

M E K G I R O W L V C U P P W O L O

O P L A M H P E O E O V I A G B D C

C O C L P L S L W L V X M L E V E L

Tongs
Shovel
Line Blocks
Level
Jointer
Rule
Trowel
Square
Tool Bag
Hammer
Hoe
Brick Set
Wheelbarrow
Trig

BRICK MASONRY VOCABULARY

bed joint
head joint
rowlock
header
soldier
stretcher
running bond
soldier course
common bond
header course
stack bond
flush joint
v-joint
concave joint
scratch joint
wire brush
line pin
mortar hoe
brick tongs
safety glasses
line blocks
masonry rule
level
trowel
chisel
brick hammer
shovels
jointers
steel square
footings
masonry
brush
clean
work area
tool
touch
mixing
concrete
bricks
mortar
blocks
cutting
protect
eyes
hand
corner

lead
measuring
coursing
plumb
straight-edge
mason
spread
spreading
point (toe)
heel
shank
ferrule
handle
chisels
hammering
nails
tooling
striking
transferring
box
wheel barrow
shape
squaring
first
laying
inch
fraction
brick hammer
brick set
steel square
line
trig
tool bag
proportions
sand
water
lime
hold
pick up
pull
butter
throw
bond
shape
boards
six foot masonry rule

rule
bat
three-quarter
vertical
horizontal
corners
dry bond
soldier
column
wall
pre-soak
muriactic acid
fiber brush
safety glasses
station
clean
safe
clothing
proper
water bucket
dry mix
consistency
adhesiveness
stack
load
excess
wall
side
face
height
thumb
shaping
pressing
picking
placing
header
gravel
foundation
scaffold
portland
magnolia

FOOD SERVICE

1. Objective Checklist

2. Slide/Tape Presentation

   "Bakery"
   "Salad Bar - Lettuce Patch"
   "Waiter-Waitress"

3. Taped recipes and portions of textbook.

4. Role play activity

   Different roles of people are described on cards and students participate in activity by assuming the role.

   Example:

   "You are a customer who has just found a fly in your soup."

5. Flash Cards
   a. Vocabulary with definitions on back of card.
   b. Word with abbreviation on back of card.
   c. Pictures of tools and utensils with identification on back of card.

6. Posters
   "Cleaning Garbage Cans (Steps identified)
   "Cleaning Grill" (Procedure and steps identified)
   "A Visit to Pizitz Bakery"
   "Earn $$'s in Food Service"
   (Pictures of job opportunities)

7. Taped Interviews

8. Activity - "Hamburger Parts"
   Parts of a hamburger such as bun, meat, tomato, onion, pickle, lettuce, etc. were cut from construction paper.
   Students are given instructions on preparing hamburgers as in a setting similiar to fast food business.

FOOD SERVICE VOCABULARY

Au gratin
bake
baking
barbecue
baste
beat
blanch
blend
boil
bouillon
bouillon cubes
bread
broil
brush
candy
chill
chop
congeal
cool
core
cream
crumb
cube
cut
cut-in
deep-fat fry
dice
shoes
apron
recipe
lettuce
glasses
turkey
flavor
toss

dilute
dip
dip in batter
dissolve
dot
dust with flour
entree
filet
flake
flute
fold
food
fruits
fry
garnish
grate
grill
grind
hull
knead
lard
level-off
marinate
mash
melt
meringue
mince
mold
store
soaked
hours
ham
meat
dressing
relishes

pan-broil
pan-fry
peel
pit
roast
salad
saute
scald
sear
season
sift
simmer
smother
souffle
steam
steep
stir
stuff
surface cooking
thaw
thicken
toast
unmold
vegetable
whip
buffett
appetizers
uniform
refrigerator
dried fruits
menu
milg
ingredients
cheese
main course

Welding

I. Objective Checklist

II. Student Performance Record

III. "Welding" - Slide/Tape Presentation

IV. "Flash Weldman" - Activity Matching picture and word card

V. Vocabulary List

VI. "Safety" Slide/Tape Presentation

VII. Posters

1. "Welding . . . A Science"
2. "Welding . . . An Art"

VIII. Screening Activities

WELDING VOCABULARY

flat	wire brush	beveling
horizonal	burning goggles	post hearing
vertical	lens	acetone
overhead	pliers	coating
lap	chipping hammer	tempering
pad	shears	brazing
vee butt	arc	soldering
tee fillet	machine ground	jig
stringer bead	AC/DC current	angle iron
weave bead	generator	arc blow
crater	voltage	grinder
penetration	amperage (amps)	metal saw
root pass	conductor	expansion
electrode holder	transformer	gloves
puddle	torch	copper
slag	oxygen acetylene	base metal
electrode rod	striker	hardness
flux	argon	bronze
hood	preheating	aluminum
alloy	stainless steel	cast iron

straight and reversible polarity

STUDENT'S BASIC WELDING GUIDE

NAME_____

ENROLLMENT DATE_____
COURSE COMPLETION DATE_____
EMPLOYMENT DATE_____
EMPLOYER_____

INSTRUCTOR_____

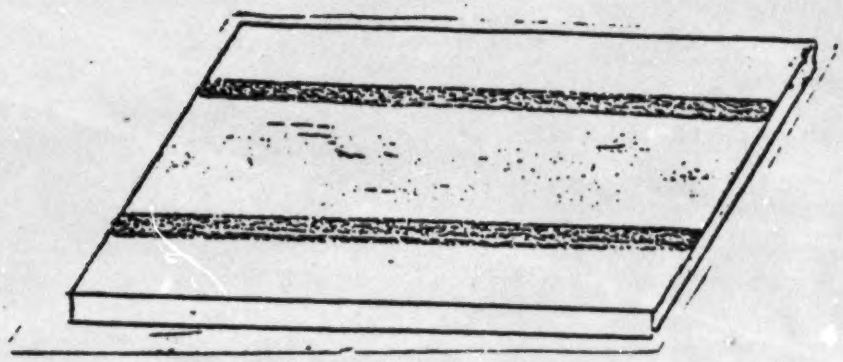
SAMPLE PAGE

FLAT (F)

(F-1)

DATE BEGAN

_____ E-6013
_____ E-7014
_____ E-7018
_____ E-6011
_____ MIG
_____ TIG



DATE COMPLETED

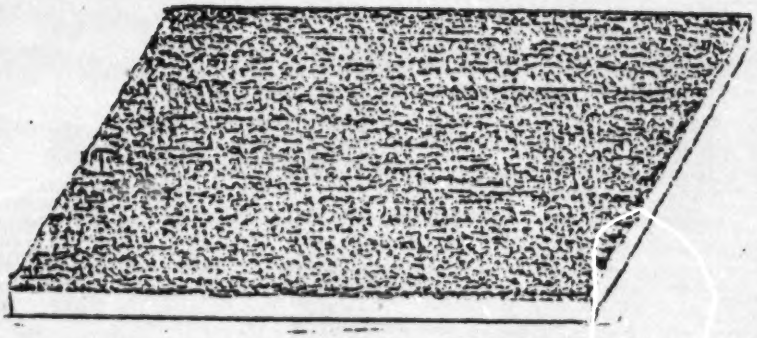
_____
_____
_____
_____
_____
_____

TWO STRINGER BEADS

(F-2)

DATE BEGAN

_____ E-6013
_____ E-7014
_____ E-7018
_____ E-6011
_____ MIG
_____ TIG



DATE COMPLETED

_____
_____
_____
_____
_____
_____

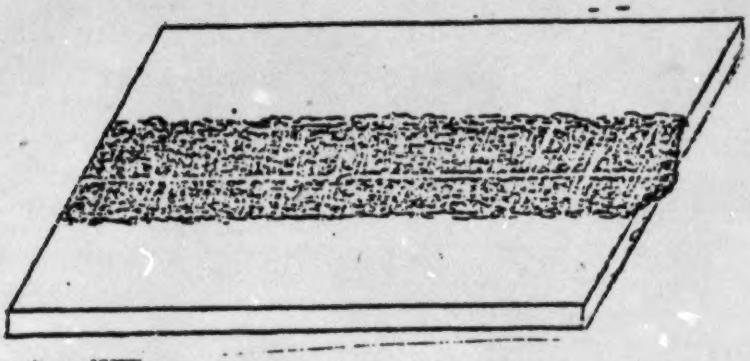
PAD WELD

(P-3)

DATE BEGAN

E-6013
E-7014
E-7018
E-6011
MIG
TIG

DATE COMPLETED



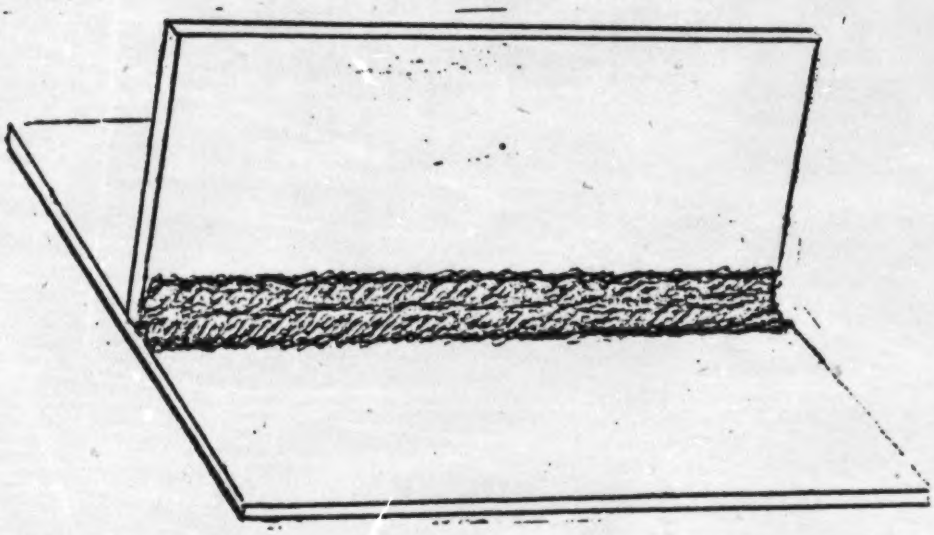
TWO STRINGER BEADS AND ONE WEAVE BEAD

(P-4)

DATE BEGAN

E-6013
E-7014
E-7018
E- 6011
MIG
TIG

DATE COMPLETED



THREE STRINGER BEAD TEE FILLET

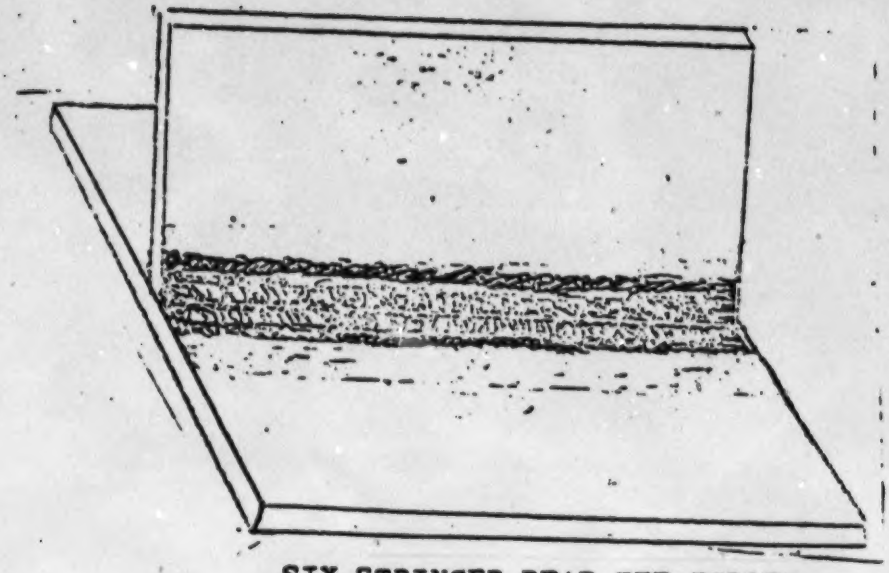
SAMPLE PAGE

(F-5)

DATE BEGAN

E-6013
E-7014
E-7018
E-6011
MIG
TIG

DATE COMPLETED



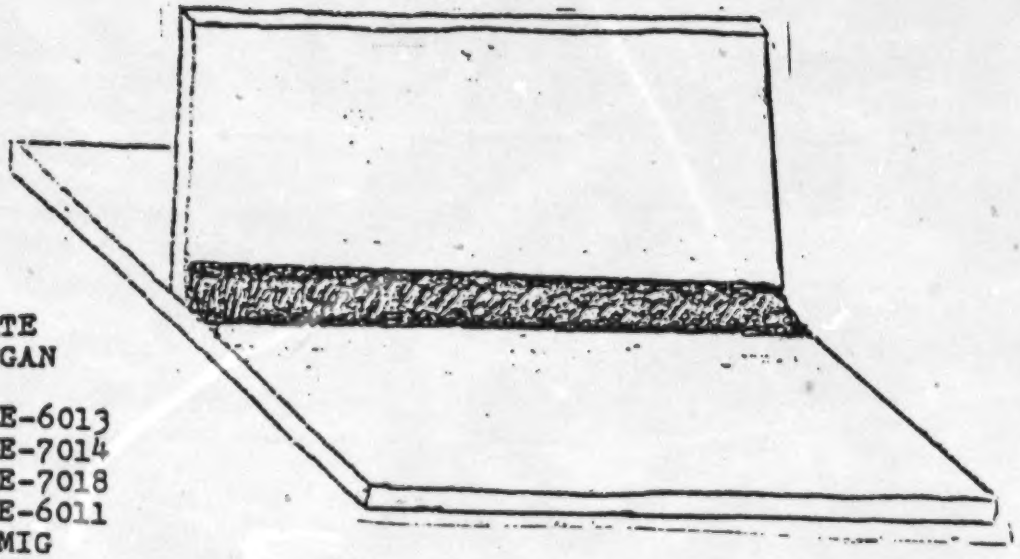
SIX STRINGER BEAD TEE FILLET

(F-6)

DATE BEGAN

E-6013
E-7014
E-7018
E-6011
MIG
TIG

DATE COMPLETED



THREE WEAVE BEAD TEE FILLET

APPENDIX D

Before entering welding, the student should be assesed by considering the following items:

		Yes	No
1.	Interest in welding	___	___
2.	Good visual perception	___	___
3.	Can assume a crouch position for two minutes	___	___
4.	Can remain in an enclosed area for at least five minutes	___	___
5.	Can stand in one position for at least five minutes	___	___
6.	Can lift fifty pounds	___	___
7.	Can carry twenty-five pounds ten feet	___	___
8.	Good fine and gross motor coordination	___	___
9.	Can work on a routine, organized basis	___	___
10.	Can read a rule to 1/16"	___	___
11.	Can perform basic mathematical functions	___	___
12.	Can follow oral instructions	___	___

The following are suggestions the classroom teacher may use to help assess the student in the previous stated areas. These suggestions or activities correspond to the numbers of the items above.

1. Counsel with student and provide career orientation in classroom.

2. Teacher observation.

3. Student will assume crouch position and teacher will time the student.

4. Student will remain in an enclosed area, such as behind a screen, in a small closet, etc., for five minutes.

5. Student will stand at blackboard for five minutes while drawing small round circles.

6. Student will lift fifty pounds of weight, such as a stack of books.

7. Student will carry twenty-five pounds of weight ten feet, (books, etc.)

8. Teacher observation.

9. Can be assessed in daily activities through teacher observation.

10. Classroom exercises in using a ruler.

11. Teacher observation in problem solving.

12. Teacher will give student oral instructions to follow.

BRICK MASONRY

Before entering Brick Masonry, the student should be assessed by considering the following items:

	Yes	No
1. Interest in Brick Masonry	___	___
2. Has ability to adjust to routine operation	___	___
3. Attends to own task without disturbing others	___	___
4. Follows oral directions	___	___
5. Completes assigned tasks	___	___
6. Good motor coordination	___	___
7. Can lift up to ninety pounds	___	___
8. Can carry fifty pounds	___	___
9. Can perform simple addition and subtraction	___	___
10. Can work independently	___	___

The following are some suggestions for activities directly related to brick masonry. If these materials are not available other items could be used to assess the performance of the task.

1. Stack bricks at least four bricks high, and three bricks wide without the stack falling. (Books may be used in the classroom.)

2. Climb a ladder.

3. Lift 90 pounds. (If available student can lift one bag of portland cement, to meet this objective.)

4. Carry 50 pounds. (If available student can carry one 12" concrete block to meet this objective.)

5. Walk a 12" wide beam or board.

6. Follow two-step directions. Example: Student will carry ten bricks to a given point, and bring back a 12" concrete block.

FOOD SERVICE

Before entering Food Service, the student should be assessed by considering the following items:

		Yes	No
1.	Interest in Food Service	___	___
2.	Follows directions oral/written	___	___
3.	Good health	___	___
4.	Good motor coordination	___	___
5.	Stand for long periods of time	___	___
6.	Works independently	___	___
7.	Completes assigned tasks	___	___
8.	Is able to verbalize needs and comprehends oral language	___	___
9.	Is cooperative and gets along well with others	___	___
10.	Is able to perform basic measuring principles	___	___

The following are suggestions for activities related to Food Service the classroom teacher may use to help assess the student.

COORDINATION

Materials:

1. Sack of canned goods.
2. Table with labeled areas for each type canned goods.

Directions:

1. Student is shown sack of canned goods
2. Student lifts sack of canned goods.
3. Student carries sack to designated area.
4. Student sorts canned goods.
5. Student places canned goods in correct area of table according to labels.

MEASURING

Equipment Needed:

1 liquid measuring cup - (glass)
set of dry measuring cup
set of measuring spoons
bowl
spatula and rubber scrapper
shortening, flour and water

Liquid Measuring
Steps:

1. Using glass measuring cups measure 1/2 cup of water
2. Pour measured water into bowl

Solid Measuring
Steps:

1. Using 1/4 measuring cup, measure 1/4 cup of flour
2. Level off flour with spatula so that flour is even across the top of the cup
3. Put measured flour into bowl

Measuring Fat
Steps:

1. Using the 1 tablespoon, measure a tablespoon of shortening
2. Level off shortening with spatula so that it is even across the top
3. Using rubber scraper, clean off tablespoon and put shortening into bowl

FINE MOTOR COORDINATION

Skill: Student will demonstrate ability to use fine motor skills:

Materials:

1. Patterns for hamburgers

buns	pickles
hamburger patties	onion
lettuce	tomato
ketchup	cheese
mustard	mayonnaise

2. construction paper

3. scissors

4. pencil

Directions:

1. Place pattern on correct color of construction paper

2. Trace patterns

3. Cut out each piece of the hamburger

FOLLOWING ORAL DIRECTIONS

Skill: Given the color coded parts of a hamburger, the child will follow the oral instructions for making a hamburger.

Materials:

1. Pieces of hamburger cut from construction paper

buns	pickles
hamburger patties	onion
lettuce	tomato
ketchup	cheese
mustard	mayonnaise

Directions:

1. Place pieces of hamburger on table

2. Make a hamburger with everything but no onion and mayonnaise

3. Make a plain hamburger with ketchup and mustard only

4. Make a hamburger with everything and put double cheese

FOLLOWING WRITTEN INSTRUCTIONS

Skill: Given the color coded parts of a hamburger, the child will follow the written instructions for making a hamburger.

Materials:

1. Pieces of a hamburger cut from construction paper.

mustard	cheese
buns	pickels
hamburger patties	onion
lettuce	mayonnaise
ketchup	tomato

2. Written instructions for each hamburger

Directions:

1. Place pieces of hamburger on table

2. Give instruction cards for three different hamburgers

   (a) hamburger with ketchup only
   (b) hamburger with everything but mustard
   (c) hamburger with double meat and everything but mayonnaise